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DOCKET NO.: FCI-2642/C2285A

PATENT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Richard A. Elco

Confirmation No.: 2569

Application No.: 09/976,946

Group Art Unit: 2817

Filing Date: **October 12, 2001**Examiner: **Lee, Benny T.**For: **Waveguides And Backplane Systems**

DATE OF DEPOSIT: October 7, 2003

I HEREBY CERTIFY THAT THIS PAPER IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL, POSTAGE PREPAID, ON THE DATE INDICATED ABOVE AND IS ADDRESSED TO THE COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450.

Andrew J. Hagerty
 TYPED NAME: Andrew J. Hagerty
 REGISTRATION NO.: 44,141

☐ MS Non-Fee ☒ MS AF
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, VA 22313-1450

Sir:

REPLY TRANSMITTAL LETTER

- ☐ A Preliminary Amendment.
- ☒ An Amendment Responsive to the Office Action Dated September 10, 2003.
- ☐ An Amendment Supplemental to the Paper filed
- ☐ A Substitute Specification (pages 1 -) in clean form.
- ☐ A substitute specification (pages 1 -) with markings.
- ☐ An Abstract is enclosed.
- ☐ replacement sheets of drawings are enclosed comprising figures
- ☐ Request is hereby made to accept black and white photograph(s) in this case, as they are the only practicable medium for illustrating the claimed invention. One (1) set of black and white photographs comprising figure(s) is submitted herewith.

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- ☐ Petition is hereby made to accept drawing(s)/photograph(s) in this case.
- ☐ Three (3) sets of color drawing(s)/photograph(s) and black and white photocopy that accurately depicts to the extent possible, the subject matter shown in the color drawing(s)/photograph(s), are enclosed, comprising figures
- ☐ An amendment to the first paragraph in that portion of the Brief Description of the Drawings is also enclosed herewith advising that the patent contains at least one drawing/photograph in color.
- ☐ A Certified Copy of each of the following applications: is enclosed.
- ☐ An Associate Power of Attorney is enclosed.
- ☐ Information Disclosure Statement.
- ☐ Attached Form 1449.
- ☐ A copy of each reference as listed on the attached Form PTO-1449 is enclosed herewith.
- ☐ A Terminal Disclaimer is attached.
- ☐ Appendices as follows:
- ☐ Other
- ☒ **No Additional Fee is Due.**
- ☐ Applicant(s) has previously claimed small entity status under 37 CFR § 1.27.
- ☐ Applicant(s) by its/their undersigned attorney, claims small entity status under 37 CFR § 1.27 as
- ☐ This application is no longer entitled to small entity status. It is requested that this be noted in the files of the U.S. Patent and Trademark Office.

	REMAINING AFTER AMENDMENT	HIGHEST PAID FOR	EXTRA	SMALL ENTITY		NOT SMALL ENTITY	
				RATE	FEE	RATE	FEE
TOTAL CLAIMS	6	21 (20 MINIMUM)	0	\$9 EACH	\$	\$18 EACH	\$0
INDEP. CLAIMS	3	4 (3 MINIMUM)	0	\$43 EACH	\$	\$86 EACH	\$0
FIRST PRESENTATION OF MULTIPLE DEPENDENT				\$145	\$	\$290	\$0
<input type="checkbox"/> ONE MONTH EXTENSION OF TIME				\$55	\$	\$110	\$0
<input type="checkbox"/> TWO MONTH EXTENSION OF TIME				\$210	\$	\$420	\$0
<input type="checkbox"/> THREE MONTH EXTENSION OF TIME				\$475	\$	\$950	\$0
<input type="checkbox"/> FOUR MONTH EXTENSION OF TIME				\$740	\$	\$1480	\$0
<input type="checkbox"/> FIVE MONTH EXTENSION OF TIME				\$1005	\$	\$2010	\$0
<input type="checkbox"/> LESS ANY EXTENSION FEE ALREADY PAID				minus	(\$)	minus	(\$0)
<input type="checkbox"/> TERMINAL DISCLAIMER				\$55	\$	\$110	\$0
<input type="checkbox"/> OTHER FEE OR SURCHARGE AS FOLLOWS:							
TOTAL FEE DUE					\$		\$0

- ☐ A check in the amount of \$ _____.00 is attached. Please charge any deficiency or credit any overpayment to Deposit Account 23-3050.
- ☐ Please charge Deposit Account No. 23-3050 in the amount of _____.00. This sheet is attached in duplicate.
- ☐ Petition is hereby made under 37 CFR § 1.136(a) (fees: 37 CFR § 1.17(a)(1)-(4)) to extend the time for response to the Office Action of _____ to and through _____ comprising an extension of the shortened statutory period of _____ month(s).

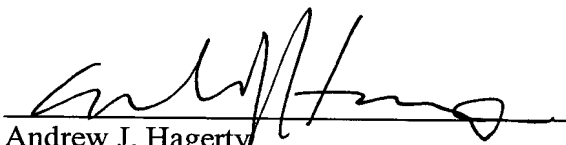
DOCKET NO.: FCI-2642/C2285A

PATENT



The Commissioner is hereby requested to grant an extension of time for the appropriate length of time, should one be necessary, in connection with this filing or any future filing submitted to the U.S. Patent and Trademark Office in the above-identified application during the pendency of this application. The Commissioner is further authorized to charge any fees related to any such extension of time to Deposit Account 23-3050. This sheet is provided in duplicate.

Date: October 7, 2003


Andrew J. Hagerty
Registration No. 44,141

Woodcock Washburn LLP
One Liberty Place - 46th Floor
Philadelphia PA 19103
Telephone: (215) 568-3100
Facsimile: (215) 568-3439

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DOCKET NO.: FCI-2642/C2285A
Application No.: 09/976,946
Office Action Dated: September 10, 2003

PATENT
REPLY FILED UNDER EXPEDITED
PROCEDURE PURSUANT TO
37 CFR § 1.116



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Richard A. Elco

Confirmation No.: **2569**

Application No.: **09/976,946**

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TYPED NAME: Andrew J. Hagarty
REGISTRATION NO.: 44,141

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

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REPLY PURSUANT TO 37 CFR § 1.116

In response to the Official Action dated **September 10, 2003**, reconsideration is
respectfully requested in view of the amendments and/or remarks as indicated below:

- ☐ **Amendments to the Specification** begin on page _____ of this paper.
- ☒ **Amendments to the Claims** are reflected in the listing of the claims which
begins on page 2 of this paper.
- ☐ **Amendments to the Drawings** begin on page _____ of this paper and include
an attached replacement sheet.
- ☒ **Remarks/Arguments** begin on page 4 of this paper.

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-24 (Canceled).

25. (Currently amended) The waveguide of claim [[24]] 31, wherein the third conductive channel is generally C-shaped.

26. (Currently amended) The waveguide of claim [[24]] 31, wherein the third conductive channel is generally I-shaped.

27. (Currently amended) The waveguide of claim [[24]] 31, wherein the third conductive channel comprises a bend sheet of electrically conductive material.

28. (Canceled).

29. (Previously presented) A backplane system, comprising:

a substrate;

a non-radiative dielectric waveguide connected to the substrate, the waveguide having a gap therein for preventing propagation of a lower order mode into a higher order mode;

at least one transmitter connected to the waveguide for sending an electrical signal along the waveguide; and

at least one receiver connected to the waveguide for accepting the electrical signal.

30. (Previously presented) A backplane system, comprising:

a substrate;

a waveguide connected to the substrate, the waveguide including:

a first conductive channel disposed along a waveguide axis;

a second conductive channel disposed generally parallel to and spaced from the first channel to thereby define a gap between the first and second channels along the waveguide axis, the gap has a width that allows propagation along the waveguide axis of

electromagnetic waves in a TE $n,0$ mode, wherein n is an odd number, but suppresses electromagnetic waves in a TE $m,0$ mode, wherein m is an even number;

wherein one of the first conductive channel and the second conductive channel has a generally I-shaped cross section along the waveguide axis.

31. (Previously presented) A backplane system, comprising:

a substrate;

a waveguide connected to the substrate, the waveguide including:

a first conductive channel disposed along a waveguide axis;

a second conductive channel disposed generally parallel to and spaced from the first channel to thereby define a first gap between the first and second channels along the waveguide axis;

a third conductive channel disposed generally parallel to and spaced apart from the first channel to thereby define a second gap between the first and third channels along the waveguide axis;

wherein each of the first and second gaps has a gap width that allows propagation along the waveguide axis of electromagnetic waves in a TE $n,0$ mode, wherein n is an odd number, but suppresses electromagnetic waves in a TE $m,0$ mode, wherein m is an even number;

at least one transmitter connected to the waveguide for sending an electrical signal along the waveguide; and

at least one receiver connected to the waveguide for accepting the electrical signal.